

NADIS disease bulletins are written specifically for farmers, to increase awareness of prevalent conditions and promote disease prevention and control, in order to benefit animal health and welfare.  
Farmers are advised to discuss their individual farm circumstances with their veterinary surgeon.

## **Pyelonephritis in Sows**

Bacterial infection of the kidney as a result of ascending infection from the bladder is a common cause of illness and mortality in the breeding sow. The disease can vary from a peracute form – where little is seen prior to death – through to a low grade chronic form that may produce little discernible problems to the sow.

The bladder in the sow is highly vulnerable to chronic bacterial infection (ascending the short wide urethra) particularly in situations of poor hygiene where vulval and vaginal contamination is high and where water supply is restricted, reducing the flushing effect of the urine.

### **Causative Organisms**

In theory, any bacteria that gains access to the bladder (mostly faecal based such as *E coli*) can ascend the ureter to the kidney, although in these cases a chronic low grade pyelonephritis tends to occur. More seriously, *Actinomyces* (formally known as *Corynebacterium* or *Eubacterium*) suis is involved and can produce acute renal failure and rapid death.

This organism is known to be carried in the preputial diverticulum (pouch) of most boars above 8 weeks of age and gains access into the sows' vagina at mating. From there it tracts into the bladder and, where there is damage to the bladder wall as a result of other infectious agents (i.e. cystitis), the valves that protect the ureters from receiving backflow of urine from the bladder are damaged, allowing the infection to track further up to the kidneys.

### **Clinical Signs**

In the most acute forms, the sow will be found dead – death occurring within 3-4 hours of *Actino suis* reaching the kidney and inducing total sudden kidney failure. Typically, such sows will be within the first 4 weeks since service but any age of sow can be affected.

In less severe cases, blood, mucous and pus are evident in the urine, particularly towards the end of urination. Severely affected animals will be dull and depressed, off feed and will lose weight. In milder cases, there may be no other signs than blood in the urine, which can be intermittent.

Confirmation of the diagnosis can be based on bacteriological examination of the urine but, usually, a post mortem examination is needed and typical kidney damage will be detected. The causative organism can be difficult to grow in the laboratory.

### **Treatment**

Where individual sick sows are seen, individual antibiotic treatment can be effective if given early. Penicillin based antibiotics and the potentiated sulphonamides are the most effective although individual farm requirements will be determined by the veterinary

surgeon. Free access to copious volumes of water is also an essential part of the treatment regime.

### **Prevention**

Providing a high standard of hygiene for the breeding herd is an essential component of any disease control strategy. Boar pens should be regularly washed and disinfected – every 3 months in a high risk environment. Similar standards apply for sows. Wallows in outdoor paddocks can be a major source of infection for the sow due to contamination.

The kidneys and bladder are normally flushed out by the passage of urine. On no account should water for dry sows be restricted and some producers have found benefits from increasing salt levels in sow diets to increase water intake.

Where a confirmed problem is occurring in the herd, strategic medication via the feed is effective using tetracyclines at doses of 6-10mg/kg liveweight/day (i.e. 6-10kg per tonne 10% OTC premix). Medication on the basis of 1 month on, 1 month off over 2 or 3 cycles is usually effective.

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